

in the idle mode need to be counted. The UEs in the RRC connected mode and the UEs in the idle mode receive control information transmitted via the MBMS control channel. The following processing may be performed when the UE knows that the UE counting result needs to be obtained.

**[0065]** At **303**, the UE sends a counting response to the eNB, which includes the following two cases.

**[0066]** In the first case, the UE is in the RRC connected mode. According to one embodiment, both the idle mode UEs and RRC connected mode UEs are counted. In this case, the UE in the RRC connected mode receives the message sent at **302**, obtains the MBMS service identifier TMGI according to the information carrying in the message, and then knows the MBMS service needing the counting. If the UE is interested in the service and needs to receive the data sent via the MBMS, the UE sends the UE counting response to the eNB, so as to let the eNB count the UE number. If the message at **302** indicates that only the idle mode UEs are counted, the UE in the RRC connected mode does not make any response.

**[0067]** In the second case, the UE is in the idle mode. After receiving the message sent at **302**, the UE obtains the MBMS service identifier TMGI according to the information carrying in the message, and then knows the MBMS service needing the counting result. If the UE is interested in the service and needs to receive the MBMS service, the UE needs to establish a RRC connection at first and send the UE counting response via the RRC connection, or the UE needs to adopt a new RRC establishing procedure and send the UE counting response to the eNB in the new RRC establishing procedure. The above two methods are described as follows.

**[0068]** In the first method, the UE initiates the RRC connection and sends the UE counting response via the RRC connection.

**[0069]** At **304**, the UE sends a RRC setup message to the eNB. The message includes an UE identifier and a reason of establishing the RRC. The reason may be configured as a reason defined currently.

**[0070]** At **305**, the eNB sends a RRC setup request message to the UE. The message includes configuration information for the UE.

**[0071]** At **306**, the UE sends a RRC setup response message to the eNB.

**[0072]** At **307**, the UE sends a UE counting response to the eNB. The message includes the information indicating the MBMS service identifier. After receiving the message, the eNB regards the UE as one of the UEs interested in the MBMS carrier service.

**[0073]** In the second method, the UE adopts the new RRC establishing procedure and sends the UE counting response to the eNB in the new RRC establishing procedure. The UE sends a RRC setup message to the eNB. The message includes a reason for establishing the RRC, and the reason is for UE counting. The message also includes information indicating the MBMS service, e.g. TMGI. After receiving the message, the eNB regards the UE as one of the UEs interested in the MBMS carrier service, and sends a RRC refusing message to the UE.

**[0074]** At **308**, after the procedure of obtaining the counting result is finished, the eNB reports a counting result to the MCE via a message. The message includes a MBSFN area identifier, the MBMS service identifier TMGI and the number of the UEs. The number of the UEs may be the number of the UEs in the RRC connected mode, the number of the

UEs in the idle mode, or the sum of the number of the UEs in the RRC connected mode and the number of the UEs in the idle mode.

**[0075]** Thus, the processing at the first embodiment is finished.

**[0076]** A second embodiment is provided.

**[0077]** The first embodiment describes the signaling flow for obtaining the UE counting result. Several different counting methods may be obtained by combining the first embodiment with existing counting methods. In one method, the RRC connected mode UEs are counted at first, if the number of the RRC connected mode UEs is smaller than a threshold, then in next step, the idle mode UEs are counted. The procedure is described in the second embodiments as follows.

**[0078]** At **401**, the MCE counts the number of the RRC connected mode UEs who is interested in the MBMS service. The procedure of obtaining the UE counting result is the same as the existing counting method. Specifically, the MCE sends a UE counting request message to the eNB, the eNB sends a counting request message to the UE, the UE in the RRC connected mode sends a UE counting response to the eNB, and the eNB counts the RRC connected mode UEs in all cells that belongs to the request MBSFN area and sends the number of the UEs to the MCE.

**[0079]** At **402**, it is determined whether the number of the UEs in the RRC connected mode is smaller than a preset threshold. If the number of the UEs in the RRC connected mode is not smaller than the preset threshold, the processing at **401** is performed later, and counter the RRC connected mode UEs again when necessary.

**[0080]** If the number of the UEs in the RRC connected mode is smaller than the preset threshold, processing at **403** is performed.

**[0081]** At **403**, the MCE counts the number of the UEs which is in the idle mode and is interest in the MBMS service. In this step, the processing at the first embodiment may be performed. The MCE sends the UE counting request message to the eNB, and the message includes the indication information to indicate that the UEs in idle mode need to be counted. The eNB sends the UE counting request message to the UE, and the message includes the indication information to indicate that the UEs in idle mode need to be counted. Only the UEs in the idle mode send the UE counting response to the eNB. The eNB counts the UEs which is in the idle mode in all cells that belongs to the request MBSFN area and sends the number of the UEs to the MCE.

**[0082]** At **404**, it is determined by the MCE whether the number of the UEs in the idle mode is smaller than a preset threshold. If the number of the UEs in the idle mode is not smaller than the preset threshold, the processing at **401** maybe performed later, the number of the UEs in the RRC connected mode is counted again when necessary.

**[0083]** If the number of the UEs in the idle mode is smaller than the preset threshold, the processing at **405** is performed. The MCE decides to suspend the data transmission and sends new MBMS schedule information to the eNB via a message. The message includes a serial number of a modification period. When a modification period indicated by the serial number starts, the eNB sends the new schedule information to the UE. The new schedule information does not include the identifier of the MBMS service to be suspended. In a user plane, the eNB does not send the data of the MBMS service to be suspended. For the UE, neither